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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/585,832 | 07/12/2006 | Tasuku Teshirogi | 06460/LH | 7767 |
| 1933 | 7590 | 03/10/2009 | | |
| FRISHAUF, HOLTZ, GOODMAN & CHICK, PC | | | EXAMINER | |
| 220 Fifth Avenue | | | CHEN, SHIIH CHAO | |
| 16TH Floor | | | ART UNIT | PAPER NUMBER |
| NEW YORK, NY 10001-7708 | | | 2821 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|--------------------------------------|---|
| Office Action Summary | Application No. 10/585,832 | Applicant(s) TESHIROGI ET AL. |
| | Examiner Shih-Chao Chen | Art Unit 2821 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 July 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 12-18 is/are allowed.
- 6) Claim(s) 1-3 and 7 is/are rejected.
- 7) Claim(s) 4-6,8-11,19 and 20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 July 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08e)
 Paper No(s)/Mail Date 7/12/06, 7/30/07, 11/1/07, 8/25/08
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 07/12/2006, 07/30/2007, 11/01/2007 & 08/25/2008 has been considered by the examiner.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

4. Claim 3 is objected to because of the following informalities: in line 6, "the spiral" should be changed to --the spiral type--. Appropriate correction is required.
5. Claims 10-11 and 19-20 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the

alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Rawnick et al. (FR 2 835 972 A1).

Regarding claim 1, Rawnick et al. teaches in figures 1-4 a circularly polarized antenna [10] characterized by comprising: a dielectric substrate [12]; a ground conductor [16] which is piled up one surface side of the dielectric substrate; a circularly polarized type of antenna element [20] formed on an opposite surface of the dielectric substrate; a plurality of metal posts [18] whose respective one end sides are connected to the ground conductor and penetrate the dielectric substrate along a thickness direction thereof, and whose respective other end sides extend up to the opposite surface of the dielectric substrate, the plurality of metal posts configuring a cavity by being provided at predetermined intervals so as to surround the antenna element; and a conducting rim [14] which short-circuits the respective other end sides of the plurality of metal posts along an array direction thereof, and is provided so as to extend by a predetermined distance in a direction of the antenna element at the side of the opposite surface of the dielectric substrate.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rawnick et al. (Cited above) in view of Shively (U.S. Patent No. 5,712,647).

Rawnick et al. teaches every feature of the claimed invention in paragraph 7 except for the antenna element is formed of a square-shaped spiral type or a circular spiral type.

Shively teaches in figures 1-4 the antenna element [30, 11] is formed of a square-shaped spiral type (See FIG. 3) or a circular spiral type (See FIG. 1).

In view of the above statement, it would have been obvious to one having ordinary skill in the art at the time the invention was made by using the square spiral or circular spiral as taught by Shively in order to provide a thin, flat, high gain, wide bandwidth antenna (See Abstract).

Allowable Subject Matter

10. Claims 4-6 and 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 12-18 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 12-18 is the inclusion of the limitations of a transmitting unit which radiates a radar pulse into a space via a transmitting antenna; a receiving unit which receives via a receiving antenna a reflected wave of the radar pulse returned from the space; an analysis processing unit which explores an object existing in the space based on a reception output from the receiving unit; and a control unit which controls at least one of the transmitting unit and the receiving unit based on an output from the analysis processing unit; and a first conducting rim and a second conducting rim, which short-circuit the respective other end sides of the plurality of metal posts which are respectively provided at predetermined intervals so as to surround the first circularly polarized type of antenna elements and the second circularly polarized type of antenna elements in isolation along array directions thereof, are provided on the opposite surface side of the dielectric substrate so as to extend by a predetermined distance in the directions of the first circularly polarized type of antenna elements and the second circularly polarized type of antenna elements. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (571) 272-

1819. The examiner can normally be reached on Monday-Thursday from 7 AM to 5:30 PM, Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shih-Chao Chen
Primary Examiner
Art Unit 2821

SXC
March 5, 2009
/Shih-Chao Chen/
Primary Examiner, Art Unit 2821

Application/Control Number: 10/585,832
Art Unit: 2821

Page 7